MATH-2305-01W Discrete Math

COURSE SYLLABUS: Summer I 2023

INSTRUCTOR INFORMATION

Instructor: **Zhaoting (George) Wei**
Office Location: **H301 (Henderson Hall 3rd Floor)**
Office Hours: **MTWTh 2:00pm-3:00pm, on Zoom, or by appointment.** The Zoom information will be sent to you by Email
Office Phone: No office phone yet. It will be provided later, Office Fax: **903-886-5945**
University Email Address: Zhaoting.wei@tamuc.edu
Preferred Form of Communication: **Email**
Communication Response Time: **With 24 hours on weekdays**
Class Meeting Time: Regularly log into our online course. We have Zoom lectures **MTWTh 4:00pm-5:00pm.** The Zoom information will be sent to you by Email.
Class Location: **D2L** under MyLeo, and **Zoom**

COURSE INFORMATION

Course Description: This is a course designed to prepare math, computer science, and engineering majors for a background in abstraction, notation, and critical thinking for mathematics most directly related to computer science. Topics include: logic, relations, functions, basic set theory, countability and counting arguments, proof techniques, mathematical induction, combinatorics, discrete probability, recursion, sequence and recurrence, elementary number theory, graph theory, and mathematical proof techniques. It is a 100% online course.

Textbook Required: We will use the open source online textbook *Introductory Notes in Discrete Mathematics* by Marcel B. Finan, https://faculty.atu.edu/mfinan/2703/discretebook.pdf

Pre-requisite: Calculus I Math-2413 with a grade of C or better.

Important Dates:
- Sunday, June 4, 2023, Summer I Last Day to Withdraw (Drop ALL Courses) with 100% Refund
- Monday, June 5, 2023, Summer I First Class Day
- Thursday, June 8, 2023, Summer I Census Date

- Tuesday, June 20, 2023, Summer I Schedules Dropped for Nonpayment
- Thursday, July 6, 2023, Summer I Last Class Day

Zoom Meeting Time: MTWTh 4:00pm-5:00pm, on Zoom. The Zoom information will be sent to you by email. I will upload records of all Zoom classes to the course website so that you can watch it yourself if you have time conflicts or if you want to watch it again. There is NO PENALTY for not attending the Zoom meeting.

Website & Internet: A Brightspace course website is created for the course which may be accessed from student myLeo accounts. All files and documents, lecture notes and outlines, links to video content, and other material that the instructor shares with them will be posted in the course website. All material posted or shared at the course website is copyrighted ©. You can retain one copy of each file for your personal use, but the files should not be distributed in any form without instructor's written consent. Students will also use the same website for posting all required files and documents in PDF format into the corresponding Submission Folder for each week, including their test papers, homework and project files, excuse notes, and all other documents. E-mail submissions might not be accepted unless legitimate reasons are presented.

Software & Tools:
- Required Technology: A computer with a webcam and stable internet access.
- All students' submissions should be in PDF format. Students should have access to a scanner or a scanner app on their cellphone to be able to scan their work into PDF files for all submissions. You can use the following website for scanning course work into PDF files. Remember to make ONE PDF file for each assignment:

  - Using CamScanner: https://www.youtube.com/watch?v=sZFcQJCmtMI
  - Android: https://www.youtube.com/watch?v=FWlVYd2Zc-E
  - iPhone: https://www.youtube.com/watch?v=10XH6VfGLqI

  Other file formats are acceptable only in exceptional cases. There are free cellphone apps that are available for scanning papers to PDF files, and commercial versions if preferred are also very affordable.

Grading: At the end of this course, the final grade will be determined by:
Homework (50%) + Midterms (20%) + Final (30%)
A = 90%-100%
B = 80%-90%
C = 70%-80%
D = 60%-70%
F < 60%

Exams: 50% There will be one mid-term exam (20%) and a Comprehensive Final Exam (30%). Each exam will be proctored through ZOOM. The ZOOM link to the Virtual Exam room will be provided in advance. **To take the exams, you need to have a webcam and a microphone, both in working conditions.**

Tentative Exam Schedules:
• Tuesday, June 20, 2023, 4:00pm-5:00pm, Midterm Exam, 20%
• Thursday, July 6, 2023, 4:00pm-5:00pm, Final Exam, 30%
No make-up test will be given without an official, written, university accepted excuse. The student is expected to contact the instructor the next working day and present the documented excuse to make up a test.

Homework: 50% Homework, which is the most important part of this course, will be assigned after each lecture online. All assignments of the week will be due by Monday 11:59pm in the following week. The course website keeps a log of the course material that you visit or download. Your attendance score will be based on the content completion points for each lecture calculated by the course website. You should complete all assigned problems, scan your papers as a PDF file, turn your file electronically in form of a PDF file by due dates into the Submission Folder in D2L for that week at the course website. Student name and homework number should be included in the filename for each week. Selected assignments and problems will be graded, but all problems should be worked out for a full homework score. You may work in groups unless otherwise instructed, however **the work you turn in must be your own**. Late work might not be accepted unless legitimate reasons are presented.

Tentative Course Schedule: See the end of the syllabus.

Student Learning Outcomes: Students who complete this course successfully will
- Construct mathematical arguments using logical connectives and quantifiers.
- Verify the correctness of an argument using propositional & predicate logic & truth tables.
- Demonstrate the ability to solve problems using counting techniques and combinatorics in the context of discrete probability.
- Solve problems involving recurrence relations and generating functions.
- Use graphs and trees as tools to visualize and simplify situations.
- Perform operations on discrete structures such as sets, functions, relations, & sequences.
- Construct proofs using direct proof, proof by contraposition, proof by contradiction, proof by cases, & mathematical induction.
- Apply algorithms & definitions to solve problems & prove statements in number theory.

TECHNOLOGY REQUIREMENTS

LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:
https://community.brightspace.com/s/article/Brightspace-Platform-Requirements

LMS Browser Support:

https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

YouSeeU Virtual Classroom Requirements:
https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@tamuc.edu**.**

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your Instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

https://community.brightspace.com/support/s/contactsupport

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

University Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.

http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: https://www.britannica.com/topic/netiquette

TAMUC Attendance

For more information about the attendance policy please visit the Attendance webpage and Procedure 13.99.99.R0.01.
http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.PDF

Academic Integrity

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03
Undergraduate Student Academic Dishonesty Form

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/documents/13.99.99.R0.03UndergraduateStudentAcademicDishonestyForm.PDF

Graduate Student Academic Dishonesty Form

http://www.tamuc.edu/academics/graduateschool/faculty/GraduateStudentAcademicDishonestyFormold.PDF

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.PDF

Regarding the University's Pandemic Response

A&M-Commerce requires the use of face-coverings in all instructional and research classrooms/laboratories. Exceptions may be made by faculty where warranted. Faculty have management over their classrooms. Students not using face-coverings can be required to leave class. Repetitive refusal to comply can be reported to the Office of Students' Rights and Responsibilities as a violation of the student Code of Conduct.

Students should not attend class when ill or after exposure to anyone with a communicable illness. Communicate such instances directly with your instructor. Faculty will work to support the student getting access to missed content or completing missed assignments.

Students with Disabilities-- ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Velma K. Waters Library Rm 162
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: studentdisabilityservices@tamuc.edu
Website: Office of Student Disability Resources and Services
http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/

Nondiscrimination Notice

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.

Web url:
http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.PDF

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

TENTATIVE COURSE SCHEDULE

Week	Dates	Topics
1	June 5 – 8	Section 1-6
2	June 12 – 15	Section 7-14
3	June 19 – 22	Midterm Exam, Section 15-18
4	June 26 – 29	Section 19-23
5	July 3 – 6	Section 24-26, Final Exam